



# 18 -- Spacecraft for the Universal Modification of Orbits (SUMO) Program

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## General Information

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## Contracting Office Address

Department of the Navy, Office of Naval Research, Naval Research Laboratory, 4555 Overlook Ave. S.W.,  
Washington, DC, 20375

## Description

An industry briefing will be held at the Naval Research Laboratory (NRL) on November 2, 2005 from 9:00 a.m. to 5:00 p.m., in Building 226, Auditorium. The purpose is to discuss the general requirements and opportunities of the Spacecraft for the Universal Modification of Orbits (SUMO) Program. The SUMO program consists of a front end that combines detailed relative pose estimation with a multi degree of freedom robotic manipulator system to autonomously grapple tumbling space objects without custom interfaces. SUMO offers the potential for spacecraft salvage, repair, rescue, reposition, and debris removal. This capability can extend service life by providing a safe and calculated disposal after propellant exhaustion. Additional information can be found at <http://projects.nrl.navy.mil/sumo>. As such, the general requirements for a space qualifiable multiple degree of freedom robotic arm, machine vision technology for relative pose estimation, 2- and 3-D imaging technology for space, flight-certifiable planning software, flight-certifiable fault detection and recovery software, and compliance

control algorithms, along with related contract opportunities and mechanisms will be discussed. A combination of contracting methods will be used to support the innovative systems required for this effort. The NRL Broad Agency Announcement topic number BAA 82-05-01, Spacecraft Technology may be used to submit initial "white papers" to NRL for consideration of technology that might be of use on the SUMO program. After NRL reviews the initial white paper, NRL will contact the author if there is an interest in the technology. Potential technology sources are encouraged to attend the industry day to facilitate this communication process. The complete description of the topic can be located at the following website:<http://heron.nrl.navy.mil/contracts/baa.htm>. This effort is part of a DARPA Tactical Technology Office initiative, which is being led by NRL. Offerors who plan to attend must submit a visit request by October 26, 2005: Naval Research Laboratory, Attn: Code 3230.MS, Industry Briefing MS01, 4555 Overlook Avenue S.W, Washington, D.C. 20375. Requests may be faxed to the following fax number, 202-767-6197. The visitor requests should be prepared on company letterhead and must contain the following information for each person attending: Name, social security number, citizenship, purpose of visit. Any substitutions/additions to visitor requests must be received 3 business days prior to the briefing. The classification level of the visit is "UNCLASSIFIED". During the briefing questions will be entertained, after first submission in writing to the contract representative. All attendees must abide by the following to attend the industry briefing: (a) One form of identification will be required (ie, drivers license). All foreign nationals will be required to show greencard. (b) No cameras, cellular telephones with cameras, tape recorders, or other reproduction devices will be allowed. (c) The Government reserves the right to inspect all material, briefcases, etc. when entering or leaving the Government facilities. (d) Each visitor will be required to sign in and out. Any questions should be directed to Mary M. Sandy, Contract Specialist, Naval Research Laboratory, (202) 767-2021, [mary.sandy@nrl.navy.mil](mailto:mary.sandy@nrl.navy.mil).

## Point of Contact

Mary Sandy, Contract Specialist, Phone 202-767-2021, Fax 202-767-6197, Email [mary.sandy@nrl.navy.mil](mailto:mary.sandy@nrl.navy.mil)

## Place of Performance

Address: Naval Research Laboratory 4555 Overlook Ave. SW Washington, DC  
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